

WHAT IS C&D DEBRIS?

C&D debris is the waste generated from land clearing as well as the construction, remodeling, repair and demolition of buildings and roads. C&D debris often is bulky material. The material is varied and includes concrete bricks, wood, asphalt (from shingles and roads), glass, metal, plastic, doors, windows, plumbing fixtures and gypsum (the main material of drywall) as well as trees, stumps, soil and rocks. The U.S. Environmental Protection Agency (U.S. EPA) estimates in one report that concrete, wood and drywall comprise anywhere from 65 to 95 percent by weight of the total C&D debris generated.

C&D debris is a significant part of the total solid waste generated in South Carolina. Overall, more than 14.7 million tons of solid waste was generated in fiscal year (FY) 2006 (July 1, 2005 to June 30, 2006). Of that amount, about 3.9 million tons – roughly 27 percent of the total solid waste generated – were C&D debris. That figure, based on annual reporting to DHEC, may be low compared to other states in the region. The U.S. EPA estimates that C&D debris is anywhere from 25 to 40 percent of the total waste generated in the Southeast.

CONSTRUCTION AND DEMOLITION DEBRIS MANAGEMENT

The management of construction and demolition (C&D) debris debris includes reuse, recycling, incineration and disposal in either a C&D debris landfill or municipal solid waste (MSW) landfill.

It is important to note that, by law, C&D debris disposed of in a C&D debris landfill must be non-hazardous and uncontaminated. Any C&D debris that is contaminated must be disposed of in a municipal solid waste (MSW) landfill. Contaminated refers to any waste that has been in contact with lead-based paint, petroleum products, solvents, pesticides, herbicides, preservatives and certain types of asbestos.

In addition, there are many types of waste that cannot be disposed of in a C&D debris landfill. These include household garbage, lead-based paint, mercury lamps, liquid waste, railroad ties, paint cans, caulk tubes and utility poles.

Of the 3.9 million tons of C&D debris generated in FY 2006, more than 1.5 million tons – about 38 percent of the total amount of C&D generated – were recycled. More than 2.1 million tons were disposed of in the 148 permitted C&D debris and land-clearing debris landfills operating throughout the state. The remainder was incinerated or disposed of in municipal solid waste (MSW) landfills. Why isn't all C&D debris just disposed of in a MSW landfill? The answer is cost. MSW landfills are far more expensive to build and maintain than C&D debris landfills. Because of that, MSW landfills have a much higher tipping fee (what it costs to dispose of waste) than C&D debris landfills.

C&D DEBRIS LANDFILLS IN SOUTH CAROLINA

How are C&D debris landfill sites selected? In each case, a company or local government applies to the S.C. Department of Health and Environmental Control (DHEC) to place a C&D landfill at a particular site. The site must be consistent with the county's solid waste management plan and local zoning requirements as well as meet "demonstration of need" requirements.

When determining "demonstration of need" for a C&D debris landfill, DHEC considers specific criteria including the location of the proposed

landfill or landfill expansion, the number of commercial disposal facilities within the planning area and the amount of waste generated within the planning area of the proposed landfill. DHEC does not decide placement of C&D debris landfills nor plan for the construction of them.

In summary, C&D debris landfills are like any other landfill in that they must have a permit from DHEC, provide financial assurance (money for any cleanup if necessary) and meet other specific requirements. One fundamental difference between a C&D debris landfill and a MSW landfill is that the C&D debris landfill does not require a liner.

Some of the most frequent concerns that residents have when a C&D debris landfill is being considered for their community include risk to ground water, increased commercial traffic, dust, odor, noise, litter and potential fire. It is important to remember that C&D debris that is disposed of in a C&D debris landfill, by law, must be non-hazardous, uncontaminated waste. Odor normally is not an issue. C&D debris landfills cannot accept household garbage – which is often associated with odor. C&D debris landfills must have monthly cover of six inches of soil to prevent blowing litter and risk of fire.

C&D DEBRIS RECYCLING

The last management option for C&D debris should be disposal. The preferred ways to manage C&D debris – like any other waste – are to reduce the amount generated to begin with and, if possible, recycle.

Homebuilders and contractors, for example, can reduce C&D debris by carefully estimating the amount of materials needed for construction. Materials that are not needed can be reused on another project or made available to others for reuse. In South Carolina, for example, Habitat for Humanity Resale Stores accept various materials including building materials. It is important to remember that

materials such as cardboard, metal, aluminum and plastic can be separated from the C&D debris and taken to a local recycling center.

Other materials can be taken to a C&D debris processing facility to be recycled. For example, some C&D debris processors crush concrete, cement blocks and bricks into aggregate and sell it. Tree stumps and wood waste can be ground and sold as a boiler fuel. Metal can be collected and sold to scrap yards or steel mills.

There are other options for C&D debris. The South Carolina Smart Business Recycling Program, a partnership of DHEC and the S.C. Department of Commerce, offers a Materials Exchange where companies list materials that are available or are needed. For more information on the South Carolina Materials Exchange visit www.scdhec.gov/scme. The S.C. Department of Commerce also manages an on-line Directory of S.C. Recycling Businesses that may want C&D debris. For more information, visit www.scdhec.gov/smartbusiness.

Interestingly, most C&D debris is generated from deconstruction and not the construction of new buildings. Fort Jackson in Columbia, SC and Fort Gordon in Augusta, GA have worked on deconstruction projects that have or will result in much of the C&D debris being reused and recycled.

Overall, there has been an increased emphasis on reducing and recycling C&D debris across the country, but specifically in the Southeast due to the ongoing population and building boom. That's a good thing. Reducing and recycling C&D debris saves landfill space and reduces the need for new landfills, lessens the environmental impact of making new materials, creates jobs and reduces the overall expense of building through avoided purchase and disposal costs.

For more information on C&D debris, C&D debris landfills or C&D debris recycling, please call DHEC's Office of Solid Waste Reduction and Recycling at **1-800-768-7348** or visit www.scdhec.gov/recycle.



DHEC's Office of Solid Waste Reduction and Recycling Technical Assistance Sheets provide general information on environmental topics. The Office, however, is non-regulatory, and compliance questions should be addressed to DHEC's Division of Hazardous Waste Compliance and Enforcement at (803) 896-4136 or www.scdhec.gov/environment/lwm/HTML/sw_compliance_enforcement.htm. Readers are encouraged to reproduce this material. For more information about solid waste issues, please call 1-800-768-7348 or visit www.scdhec.gov/recycle. Please send written correspondence to DHEC's Office of Solid Waste Reduction and Recycling, 2600 Bull Street, Columbia, SC 29201.